

10 the oscillation of the reflector producing a scanning reflected light beam scanning along a scan path;

 at least one sensor disposed in the scan path of the scanning reflected light beam for producing a sensor signal when the scanning reflected light beam illuminates the sensor; and

15 a control and drive system for receiving the sensor signal and thereby monitoring the oscillation of the reflector, for producing a drive signal based on the oscillation of the reflector, said drive signal having a drive amplitude, a drive frequency close to or at the resonant frequency, and a drive offset, the drive signal being provided to the oscillator to drive the oscillator causing mechanical oscillation at the drive frequency and at a desired
20 mechanical amplitude and offset.

14. (New) The scanning apparatus of claim 13 wherein the control and drive system includes a power supply for providing power to the oscillator to oscillate the reflector wherein the control and drive system controls the power supplied to the oscillator to thereby control the oscillation of the reflector.

15. (New) The scanning apparatus of claim 14 wherein the control and drive system controls the amplitude of the power supplied to the oscillator to control the amplitude of oscillation of the reflector.

16. (New) The scanning apparatus of claim 14 wherein the control and drive system controls the frequency of the power supplied to the oscillator to control the amplitude of oscillation of the reflector.

17. (New) The scanning apparatus of claim 13 wherein the control and drive system includes a power supply for providing power to the oscillator to oscillate the reflector and wherein the control and drive system controls the power to the oscillator to control the oscillation of the reflector, the control and drive system setting the frequency
5 of power provided to the oscillator at a frequency that is offset from the resonant frequency by a frequency offset.

18. (New) The scanning apparatus of claim 17 wherein the control and drive system controls the amount of the frequency offset to maintain the oscillation of the reflector at a desired oscillation amplitude.

19. (New) The scanning apparatus of claim 17 wherein the control and drive system controls the frequency of the power to maintain a constant frequency of oscillation and controls the amplitude of the power to control the amplitude of the reflector oscillation.

20. (New) The scanning apparatus of claim 13 wherein the reflector and the torsion spring mechanism are made of silicon crystal.

21. (New) The scanning apparatus of claim 13 wherein the control and drive system controls the frequency of the power to maintain a constant frequency of oscillation and controls the amplitude of the power to control the amplitude of the reflector oscillation.